Nabil Fayoumi

12/23/2003 08:00 AM

To: gwvand@solutia.com, jeffrey.r.klieve@monsanto.com
cc: Sandra.Bron@epa.state.il.us, pbarrett@CH2M.com, wweinig@laramideenvironmental.com, KTorrent@ENRD.USDOJ.GOV
cc:
Subject: Conditional Approval of DNAPL Characterization and Remediation Work Plan for Sauget Area 1 Site

Dear Mr. Vandiver and Mr. Klieve;

Attached is the conditional approval letter of DNAPL work plan (and letter attachment) for Sauget Area 1 Site. If you have any questions, please do not hesitate to contact me at 312-886-6840.

DNAPLconditional approval.orc123003.v

sauget10.wpd

Sincerely,

.....

Nabil Fayoumi
Remedial Project Manager
Superfund Division
U. S. EPA - Region 5
Phone: 312-886-6840
Fax: 312-886-4071
E-mail: fayoumi.nabil@epa.gov

December 23, 2003 (SR-6J)

Mr. Gary W. Vandiver
Solutia, Inc.
P.O. Box 66760
St. Louis, Missouri 63166-6760

Mr. Jeff Klieve
Monsanto Company
800 North Lindbergh Blvd.
St. Louis, Missouri 63167

RE: Conditional Approval of the dense nonaqueous phase liquid (DNAPL) Characterization and Remediation Work Plan, Sauget Area 1 Site (SA1S) , St. Clair County, Illinois

The SA1S is currently the subject of Administrative Order by Consent (AOC) signed by the United States Environmental Protection Agency (U. S. EPA), Solutia Inc., and Monsanto Company on January 21, 1999, requiring a detailed Remedial Investigation and Feasibility Study (RI/FS) of the SA1S.

Work under the RI/FS investigation is nearly completed. However, during the Area 1 RI/FS process, U.S. EPA identified the lack of DNAPL data as a significant data gap that must be addressed prior to remedy selection. On January 9, 2003, pursuant to Section 2.5-Additional Work of the January 21, 1999, AOC for the SA1S, the U. S. EPA gave formal notice that additional work is necessary to accomplish the objectives of the RI/FS Report. This additional work involves the preparation and implementation of a DNAPL Characterization and Remediation Investigation for the SA1S.

Two meetings (on December 9 and 16, 2003) were held between the U. S. EPA and Solutia to discuss DNAPL in SA1S. During both meetings Solutia agreed to start the DNAPL investigation the third week of January 2004. It was agreed that the entire DNAPL investigation will be completed within six months of the U. S. EPA's notice to Solutia to proceed (see Schedule table below). This DNAPL Conditional Approval Letter shall serve as a notice to proceed to Solutia. Accordingly, the DNAPL Report must be completed by June 23, 2004.

The U.S. EPA has completed the review of the fourth revision of the DNAPL Characterization and Remediation Work Plan for SA1S. This Conditional Approval contains some minor comments of the U. S. EPA, listed below. However, the U. S. EPA does not believe any further revision to the DNAPL work plan is necessary prior to the commencement of field work..

Comments:

1. The text of Solutia's cover letter requests that the U. S. EPA notify the PRPs if it believes that the DNAPL data collected will not meet the data requirements for a Technical Impracticability (TI) determination by the U. S. EPA. As I have stated in previous comments and teleconferences, a TI waiver is only one of a range of options that should be evaluated in the finalized EE/CA and RIFS report. At this time, I am not aware of any further data gaps that would need to be addressed prior to remedy selection, assuming that the tasks described in the DNAPL work plan are fully completed and subsequent data analyses are appropriate and complete. The final determination of data adequacy can only be made after the data are collected, assessed, quality-assured, interpreted, and the appropriate reports submitted for review.

2. Results from a particle-tracking model are described in the work plan. However, no reports or documentation regarding the particle-tracking model have been submitted for review or comment. The U. S. EPA reserves the right to comment on the modeling referenced in the work plan if and when such a report is prepared and submitted. Insufficient information is provided in the work plan to assess the validity of the model or the conclusions presented in the text. A complete description of the modeling approach, assumptions, sensitivity, underlaying data, and conclusions will be necessary if this modeling is to be used to support any aspect of remedy selection for the SA1S.

3. The U. S. EPA appreciates the discussion of an alternative conceptual model for the relationship between DNAPL mass removal and downgradient groundwater concentration in the dissolved phase. Rather that focusing on a single, middle-of-the-road conceptual model for data interpretations, it may be more appropriate to evaluate the data gathered during the investigation in light of both the conceptual model advocated by Newell et al. (1996) (direct proportionality between DNAPL mass and dissolved concentrations) and the model attributed to Rao and Jawitz (2003) (small volume of DNAPL removal/large reduction in concentrations). Evaluating the data in light of both conceptual models would provide a bounding or sensitivity analysis that would be very useful in remedy evaluation, including assessment of the suitability of a TI waiver for the SA1S. U. S. EPA does not believe any additional field data collection would be necessary to perform both analyses, so inclusion of a bounding evaluation should not delay the commencement of the field tasks described in the work plan.

Schedule:

Task 1	Project Startup and Contractor Scheduling	Weeks 1 and 2
Task 2	NPL Survey (all wells), Recovery Tests (12 wells), Laboratory Analysis of NAPL samples	Weeks 3 and 4 Weeks 3 - 7
Task 3	Geophysical Survey (field data collection) Geophysical Survey (Processing, interpretation, report)	Weeks 4 - 6 Weeks 7 - 15
Task 4	Soil Sampling/Piezometer Installation (15 locations in fill areas) Soil Sampling/Piezometer Installation (3 location outside of fill areas) Laboratory Analysis of Soil Samples	Weeks 7 - 10 Week 16 Week 7 - 18
Task 5	NAPL Recovery Tests (15 new piezometers) NAPL Recovery Tests (3 new piezometers) Laboratory Analysis of NAPL samples	Weeks 11 and 12 Week 17 Weeks 11 - 19
Task 6	Bench-Scale Treatability Tests	Weeks 13 - 16
Task 7	Review of DNAPL Source Depletion Alternatives	Weeks 17 - 20
Task 8	Remedial Alternatives Evaluation	Weeks 19 - 22
Task 9	Project Report (including review and submittal to EPA)	Weeks 17 - 26

In the past, U.S. EPA has corresponded directly with Solutia only on matters relating to the AOC. Given recent events, however, we will also be copying representatives of Monsanto on all correspondence relating to this and other matter, as appropriate. As referenced above, Monsanto is a signatory to the AOC and is obligated to ensure compliance with its terms. If you have any questions about this, please contact me or Thomas Martin, Associate Regional Counsel, at 312-886-4273.

If you have any questions regarding the comments set out in this letter, please do not hesitate to contact me at 312/886-6840.

Sincerely,

Nabil Fayoumi
Remedial Project Manager
Superfund Division

Enclosure

cc: Sandra Bron, IEPA
Karen Torrent, DOJ
Walter Weinig, Laramideenvironmental
Peter Barratt, CH2M Hill

bcc: File Room
Thomas Martin, USEPA
Thomas Short, USEPA
Ken Bardo, USEPA

December 4, 2003

MEMORANDUM

SUBJECT: Sauget Area 1 Superfund Site, Sauget, IL (02-R05-001)
Response to Comments on Workplan for DNAPL Characterization and Remediation Study

FROM: Steven D. Acree, Hydrogeologist
Applied Research and Technical Support Branch

TO: Nabil Fayoumi, RPM
U.S. EPA, Region 5

As requested, the responses to previous comments have been reviewed by Dr. Daniel Pope of Dynamac Corporation. Dynamac in an off-site contractor providing technical support services to this laboratory. In general, it appears that the responses addressed concerns raised in previous comments. The following recommendation concerning the response to U.S. EPA comment 1 is provided for your consideration.

The response indicates that 1) estimates of the time required for cleanup are a critical component of the comparative analysis of remedial alternatives that will be performed for the Final Report and 2) there is no widely accepted approach or model for determining the relationship between source zone NAPL mass change and mass flux of contaminant(s) in ground water flowing out of the source zone. The response also indicates that several different models for source response exist, some of which would show dramatic changes in concentration and some which would show almost no change in concentration. Based on the accuracy of these statements, it is recommended that the final report include and explain calculations and results based on each of the "widely different models" (rather than just presenting one "average" model) so that all parties might be kept fully cognizant of the high uncertainty associated with estimates of remediation time frames at this site. In addition, the assumptions (*e.g.*, source architecture, flow field uniformity, matrix heterogeneity) for the various models should be discussed in the final report so that the reader may assess the applicability of the assumptions to the Sauget site.

If you have any questions concerning this evaluation, please do not hesitate to call me at your convenience (580-436-8609). We look forward to future interactions with you concerning this and other sites.

cc: Rich Steimle (5102G)
Larry Zaragoza (5204G)
Luanne Vanderpool, Region 5
Doug Yeskis, Region 5